

REMARKS

Claims 1, 7 and 8 have been amended. Claims 2, 6 and 9-11 have been canceled. New claims 17-22 have been added. Thus, claims 1, 3-5, 7, 8 and 12-22 are now pending in the present application. Support for the amendment to claim 1 may be found in original claims 2 and 6. Support for new claim 17 may be found in original claims 1 and 4-6. Support for new claim 18 may be found in original claim 7. Support for new claim 19 may be found in the specification at page 14, second paragraph. Support for new claim 20 may be found in the specification at page 14, third paragraph. Support for new claim 21 may be found in the published application at page 14, third paragraph. Support for new claim 22 may be found in the published application at page 21, fourth paragraph. Thus, no new matter has been added. Reconsideration and withdrawal of the present rejections in view of the comments presented herein are respectfully requested.

Rejection under 35 U.S.C. §102(a)

Claims 1-16 were rejected under 35 U.S.C. §102(a) as being anticipated by Iwai et al. (PCT/JP02/12524 as translated in US2004/0110085). Claims 2, 6 and 9-11 have been canceled, thus rendering the rejection moot as it applies to these claims. The rejection will be addressed as it applies to claims 1, 3-5, 7, 8 and 12-22 .

The present claims recite a resin component (A) comprising three structural units derived from a (meth)acrylate ester, one of which contains a lactone group. In contrast, Iwai et al. discloses two mixed resins as paragraphs [0162] and [0163]. Paragraph [0162] discloses a mixed resin comprising an acrylate ester based copolymer formed from structural units x, y, and z and a methacrylate ester formed structural units p, q, and l. Iwai et al. does not discloses a copolymer formed from x and p.

In contrast, the resin component (A) recited in Claim 1 comprises a copolymer (A1), which contains at least structural unit (a1) and structural unit (a2). While, admittedly, structural unit (a1) encompasses structural unit x from Iwai et al., and structural unit (a2) encompasses structural unit p of Iwai et al., Iwai et al. in no way discloses a copolymer that comprises both x and p. Rather, Iwai et al. discloses two copolymers, one comprising x, y and z, and the other comprising p, q and l. Thus, the Iwai et al. reference does not anticipate the presently claimed invention.

In view of the amendments and comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §102(a).

New Claims 17-22

The resin component (A) recited in new Claim 17 also comprises a copolymer (A1), which contains at least structural unit (a1) and structural unit (a2). In addition, resin component (A) recited in new Claim 17 comprises a specific content of structural units (30-60 mol% of (a1 + a2) and 20-60 mol% of structural unit (a3). These mol% values are neither disclosed nor suggested by Iwai et al. The recited mol% of (a1 + a2) provide important, unexpected advantages, as recited in the present specification at page 9, lines 11-16:

By ensuring that the quantity is at least as large as the lower limit of this range, the solubility of the polymer can be more readily altered by the action of acid when the polymer is used as a resist composition. If the quantity exceeds the upper limit of the above range, then there is a danger that it may become impossible to achieve a suitable balance with the other structural units.

The recited mol% of (a3) also provides important, unexpected advantages, as recited in the present specification at page 11, last paragraph:

If the quantity is smaller than the lower limit of this range, the resolution deteriorates, whereas if the quantity exceeds the upper limit, there is a danger that the resin may become difficult to dissolve in the resist solvent.

These unexpected properties could not have been predicted based on the disclosure of Iwai et al. Thus, Claims 1 and 17, and all of the remaining claims which depend either directly or indirectly on these claims, are not anticipated by Iwai et al.

Rejection under 35 U.S.C. §103(a)

Claims 1-2, 5-7 and 12-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haneda et al. (JP 2003-167347) in view of Kamabuchi et al. (US2004/0029037).

Present claims 1 and 17 recite a resin component (A) which comprises both a structural unit (a1), which contains an acid dissociable, dissolution inhibiting group; and a structural unit (a2), which contains an acid dissociable, dissolution inhibiting group that is less readily dissociated than said acid dissociable, dissolution inhibiting group contained in said structural unit (a1). This feature produces a significant, unexpected result in that the positive resist composition enables the proximity effect to be reduced without reducing the depth of focus (DOF).

This unexpected result can be seen at pages 28-30 (Example 1), pages 33-35 (Example 3, Table 1), and at page 37 (Table 2), in which the positive resist composition which comprise structural units (a1) and (a2) provide the unexpected, beneficial proximity/DOF effects mentioned above. In contrast, the positive resist compositions of Comparative Examples 1 and 4, which lack structural units (a1), do not provide these beneficial effects (results are unsolvable). Similarly, the positive resist compositions of Comparative Examples 3 and 6 which lack structural units (a2), also do not provide these beneficial effects. These beneficial effects are not disclosed or suggested by the cited references, and could not have been predicted based these references. Thus, these unexpected results would effectively rebut any *prima facie* showing of obviousness, even were such a showing present. Thus, claims 1 and 17 should be allowable. Since the remaining claims depend, either directly or indirectly on claims 1 and 17, they should also be allowable.

In view of the amendments and comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a).

CONCLUSION

Applicants submit that all claims are in condition for allowance. Should there be any questions concerning this application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 4/25/08

By: 

Neil S. Bartfeld, Ph.D.
Registration No. 39,901
Agent of Record
Customer No. 20,995
(619) 235-8550